

Organizational Fit and Turnover in the Construction Industry: Exploring the Impact of
Job Characteristics among Junior Professionals

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Exploring the Impact of Job Characteristics among Junior
Professionals**

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Thesis

Presented to the Faculty of the Graduate School of
The University of Texas at Austin
in Partial Fulfillment
of the Requirements
for the Degree of

Master of Science in Engineering

The University of Texas at Austin

December 2018

Acknowledgements

The study allows me to expand my knowledge into multidisciplinary theory, research techniques, and writing beyond the boundaries of the engineering area. Fortunately, I was not alone in this challenging journey. My thesis committee, professionals, family, and friends deserve a sincere thankful message after all that countless support.

First, I want to express the most heartfelt gratitude to my thesis committee at The University of Texas at Austin (UT Austin). Dr. Borcharding, my co-supervisor, enlighten me to investigate various findings of human resource studies. As an expert in the field, I am inspired by your teaching, patience, and the support you provide. I can't forget dedication presented by Dr. Faust, my supervisor. Thanks to your lessons, suggestions, and feedback, the thesis can be improved to conclude. Furthermore, I couldn't process all the steps in the study without the feedback of UT Austin faculty and my student colleagues.

Second, thank you to the several friends of general contractors in South Korea. They helped me to contact their human resource managers and promote the survey. The survey was possible because of their contribution and the review of the questionnaire. I am sorry not to express my genuine appreciation in person.

Lastly, there are not enough pages to deliver my love and gratitude to my family. For the love and support of my wife, Boyoung, thank you. All the study could be started with your suggestion and support. My son, Sunha, always makes me as a person whom I want to be. When I was burdened, you made me laugh. My parents, especially mom, your smile and support grant me to go study abroad. I always miss you.

Abstract

Organizational Fit and Turnover in the Construction Industry: Exploring the Impact of Job Characteristics among Junior Professionals

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Researchers have proved that employees who have the intention to quit the organization - turnover intention have decreased productivity and may not fulfill their duties. Turnover intention may be affected by the relationship between the employee and the organization, known as person-organization (PO) fit, and characteristics that a job contains. As the construction industry has distinctive characteristics (e.g., project-based, many uncertainties, various stakeholders), it needs to be separately considered with other industries in regards to turnover intention. The purpose of this research is to identify which construction industry characteristics have a relationship with PO fit and turnover intention. High salary is often effective to reduce turnover intention but may be hard to adopt by companies; therefore, this study focuses on non-monetary characteristics, including skill variety, task identity, task significance, autonomy, workload, work location, and job security. As far as turnover is concerned, younger professionals of the

construction industry are more affected by the non-monetary factor as compared to the older employees. With this in mind, the study is focused on the current employees who are under 35 years old and have less than five years of experience in the current organization. This study deploys a questionnaire composed of four scales: (1) the characteristics of the construction industry, (2) PO fit, (3) intention toward turnover, and (4) demographic factors such as gender, age, education, employment status, tenure, work location, accommodation, and job preference.

Analyses include descriptive statistics, analysis of variance, and regression analysis. Results indicate that how to assign an employee to a place of work (i.e., HQ, regional office, or a specific project) and a variety of different activities required by the job are associated with PO fit. Notably, PO fit is a predictor of turnover intention. Based on the results, by assigning employees to a place of work by justified processes and avoiding that the job becomes simple and repetitive, construction companies may increase employee's retention (the opposite to turnover).

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Chapter 1: Introduction

Compared to other industries, construction has distinctive characteristics such as time constraints, involvement of many stakeholders, difference between standards to be met (e.g., owner's minimum requirements and local codes), and budget (Riley and Clare-Brown 2001). Due to these characteristics, different human resource management strategies should be applied to the construction industry (Borcherding 1976). In the same manner, employee retention in the construction industry needs to be approached with the characteristics in mind. Job characteristics have a significant impact on the commitment of employee (Locke et al. 1988; Lingard 2003). Furthermore, many researchers found that commitment of employee is inversely proportional to turnover. Researchers also identified that commitment of employee explains turnover variance better than job satisfaction (Hom and Griffeth 1995; Klein et al. 2014). Particularly, job characteristics represented by demanding work environment and highly hazardous job conditions are considered as a major cause of employee turnover in the construction industry (Lingard 2003; Chih et al. 2016).

In this context, identifying job characteristics is critical to investigate and curtail turnover. In spite of the importance, many researchers in the construction management field paid attention to occupational stress instead of turnover (Bowen et al. 2014; Lingard 2003; Wang et al. 2017). Although a significant number of efforts have assessed which antecedents can explain turnover (Leung and Chan 2007; Chih et al. 2016; Woo and Allen 2014), there are few types of research that identify how intrinsic job characteristics affect turnover. Ling et al. (2015) examined relationships among job characteristics, job satisfaction, and work performance of project managers; however, the authors used previously developed and validated scales for job characteristics rather than specifically

modified the scales for construction. Though Lingard (2003) identified job characteristics as a significant predictor of burnout and the link between burnout and turnover, the researcher did not look at the characteristics. Meanwhile, Chie et al. (2016) supported the hypothesis that employee's dissatisfaction with the employer's treatment indirectly influences turnover through incremental emotional exhaustion. The research was not extended to identify traits that affect turnover.

On the other hand, the perceived match between individual employees and the organizational characteristics has been constantly considered as the major factor of person-organization (PO) fit (Kristof 1996). The employee will likely quit the organization when the organization has strong values but the employee is not harmonized with these values (Chatman 1989). Thus, PO fit, which defined as "the compatibility between people and entire organizations", has strong relationships with job satisfaction, organizational commitment, and turnover intention (Kristof-Brown et al. 2005).

1.1 PURPOSE AND RESEARCH QUESTIONS

This study aims to investigate job characteristics which have an impact on employee's PO fit and turnover intention. Specific research questions to be explored in this study are as follows:

1. What is the relationship between job characteristics of a construction organization (skill variety, task identity, task significance, autonomy, appropriate workload, justified work location, job security) and PO fit?
2. What is the relationship between PO fit and the employee's turnover intention?
3. Are there differences in PO fit and turnover intention depending on demographic characteristics (gender, age, education, employment status, tenure, work location accommodation, project size, and job preference)?

To answer the research questions, the author deployed the questionnaire consisted of four scales: (1) the modification of Hackman and Oldham's (1980) job diagnostic survey (JDS), (2) Roodt's (2004) turnover intention scale (TIS-6), (3) PO fit measurement based on works by Giffen (2015), and (4) respondent demographics.

The survey sample consisted of current employees of South Korean construction companies prior to their "free promotion". In most of general contractors in South Korea, entry employees are promoted to assistant manager position without evaluation after a certain time. Since employees may stay in dissatisfying jobs when they get promotions (Trevor 1997), the sample's position in the organization was specified to exclude variables other than the characteristics. On the assumption that the position in the organization is generally in accordance with employee's age, this separation may maximize the impact of the job characteristics on turnover intention. This is because younger construction employees are more sensitive to perceived satisfaction than the older employees in turnover dimension (Clark 1996; Chih et al. 2016). Moreover, the nationality of the sample was also specified because turnover may have different antecedents and consequences in different cultures (Ramesh and Gelfand 2010).

Chapter 2: Literature Review

To identify job characteristics that affect PO fit, this study modified previously used scales. Four characteristics: (1) skill variety, (2) task identity, (3) task significance, and (4) autonomy in the questionnaire were derived from Hackman and Oldham's (1980) work. Previous studies and statistical data were reviewed to verify the other three characteristics: (1) appropriate workload, (2) justified work location, and (3) job security. Examples of each characteristic in a construction project are elaborated to exhibit the uniqueness of the construction industry.

2.1 JOB CHARACTERISTICS

Hackman and Oldham's (1980) job characteristics model addresses that five objective, measurable, changeable job characteristics foster the critical psychological states, and through them, enrich internal work motivation as shown in Fig. 1.

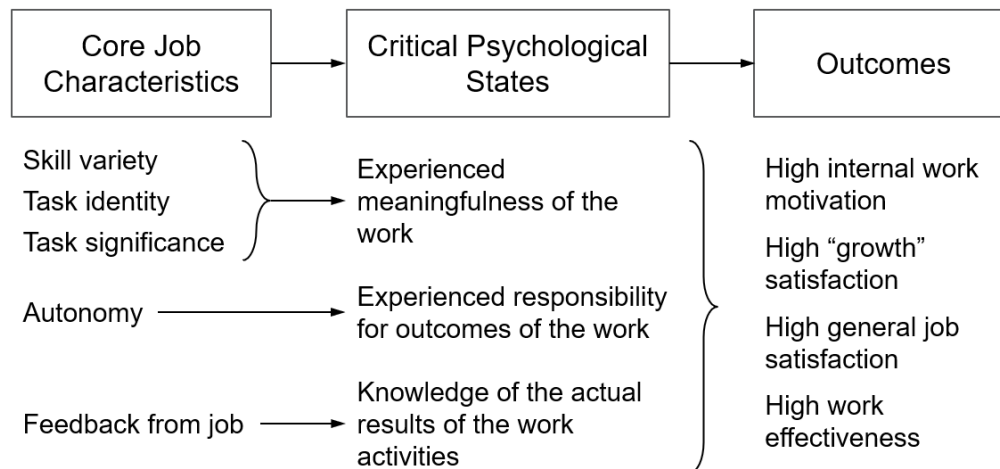


Fig. 1. Hackman and Oldham's (1980) Job Characteristics Model

Hackman and Oldham's (1980) model has been adopted to examine relationships between job characteristics and work outcomes such as retention, budget performance,

schedule performance, and client satisfaction in the construction industry (Hee and Ling 2011; Ling and Loo 2015). However, these studies mistranslated the characteristics of feedback from a job as regular feedback or evaluation from the employer or others. In the job characteristics model (Hackman and Oldham 1980), feedback from a job indicates that whether an employee can be aware of the results of work depending on the work itself regardless of other information. As far as the construction project is concerned, the objective of the project is clear. By comparing current state with the baseline schedule, budget, and quality specification, the employee can readily check the actual results of the work (Bowen et al. 2014). Thus, in this study, feedback from a job in the model was dismissed to promote the brevity of the questionnaire.

Three additional characteristics were obtained from the literature review, appropriate workload, justified work location, and job security. Working long hours and tight deadlines are considered endemic job demands in the construction industry (Bowen et al. 2014). In addition, excessive workload provokes turnover intention via emotional exhaustion (Lingard 2003).

The previous study demonstrated that work location can make a significant difference in job satisfaction (Lingard and Francis 2004). As the construction industry is project-driven, employees' relocation is inevitable. In this case, being assigned to a "better" project site is regarded as a reward among employees. Since perceived equity alleviates employee burnout (Lingard 2003), the employer can reduce the employee's stress and feelings of inequity by settling procedural justice, which means that the perceived fairness of the procedures used to make a reward of allocation decisions (Folger and Konovsky 1989; Konovsky 2000).

Finally, job security was counted as an antecedent of job satisfaction, performance, motivation, and a negative predictor of work stress (Ling and Loo 2015;

Bowen et al. 2014; Hackman and Oldham 1975; Lingard and Francis 2004). Job insecurity due to the project-based nature of work is the pervasive issue of the construction industry (Fung and Tam 2013; Lingard and Francis 2004). This job characteristic can be also confirmed by recently statistical data shown in Table 1 (Bureau of Labor and Statistics of the U.S. 2018; Ministry of Employment and Labor of South Korea 2018). In the U.S., turnover rate of the construction industry was 4.8% when the rate of all the industries was 3.6% at March 2018. Turnover in the statistical data comprised voluntary separations initiated by the employee (i.e., quits), involuntary separations initiated by the employer (i.e., layoffs and discharges), and others (i.e., retirement, death, etc.). Involuntary separations were relatively larger compared with voluntary separations. It appeared in South Korea as well.

Table 1. Separations Rates by Total and Construction Industry (Mar. 2018)

Country	Rates (%) Industry	Quits (A)	Layoffs & discharges (B)	Others (C)	Total (=A+B+C)
U.S.	Total	2.3	1.1	0.3	3.6
	Construction	2.1	2.4	0.3	4.8
South	Total	2.2	2.7	0.8	5.7
Korea	Construction	1.6	13.9	0.1	15.6

Karasek's (1979) job strain model contends that job strain, which is the significant predictor of mental strain (e.g., exhaustion, depression, job satisfaction), equals excess of demands (e.g., requires working fast, working hard, not enough time, and conflicting demands) over decision latitude (e.g., high skill required, not repetitious work, freedom as to how to work, allows a lot of decision). Job demands are represented as task identity, workload, and work location in this study. Decision latitude is reflected as skill variety, task significance, and autonomy in the study. A detailed description of

each job characteristic and an example of how it emerges in the construction industry are given in Table 2.

Table 2. Identified Job Characteristics that Affect PO fit and Turnover Intention

Characteristics	Description	Examples in construction project
Skill variety	Employees who have more opportunities to utilize the assortment of abilities that they possess will have higher <i>job satisfaction</i> (Glisson and Durick 1988).	Junior staffs are assigned to the simple task such as job site inspection, warehouse management, or maintenance of construction record.
Task identity	Constructing the scale of conflicting demands (job demands) can measure the <i>psychological stressors</i> involved in accomplishing the workload (Karasek 1979). Both role conflict and role ambiguity are inversely related to <i>commitment</i> (Morris and Sherman 1981).	Junior staffs (prior to “free promotion”, 0-4 working years in the current organization in South Korea) are assigned to certain jobs without detailed information or implement two tasks that involve intrinsic and extrinsic conflict simultaneously (Leung and Chan 2007).
Task significance	<i>The Experienced meaningfulness of the work</i> usually is enhanced when workers understand that the work being done will have a substantial impact on the physical or psychological well-being of others (Hackman and Oldham 1980).	Junior staffs conduct miscellaneous tasks which co-workers or other people rarely care about their performance such as taking a picture of the site or counting the worker’s head.
Autonomy	As autonomy increases, individuals tend to feel more <i>personal responsibility</i> for success and failures that occur on the job (Hackman and Oldham 1980). <i>Job strain</i> can be ameliorated by increasing decision latitude, independently of changes in workload demands. (Karasek 1979)	Project managers should not be micromanaged and should be allowed to propose and implement alternative procedures to speed up the project execution (Ling and Loo 2015).

Table 2, cont.

Characteristics	Description	Examples in construction project
Appropriate workload	Working long hours is a significant contributor to the prediction of <i>high work stress</i> (Bowen et al., 2014).	Long working hours are expected (traditionally) in the construction industry and are therefore tolerated (almost as a conditioning effect), particularly if the individual has no previous experience in any other industry (Bowen et al., 2014).
Justified work location	Men (rather than women) who work in site-based roles also suffer significantly higher job-related <i>emotional exhaustion</i> and are less satisfied with their pay than men who work in the regional or head office (Lingard and Francis 2004).	Employees in a construction company do not have the right to choose the next project. The company does not provide a proper process or justice in process of assigning employees to a specific project.
Job security	Perceived risk of losing one's job has a substantial impact on <i>job satisfaction</i> and motivation of employees (Theodossiou and Vasileiou 2007), and finally, it leads to <i>turnover intention</i> (Neumark 2000).	The experience of job insecurity may be even more pervasive during periods of low or declining industry activity, especially if an imminent end to a prevailing boom period is evident (Bowen et al. 2014).

2.2 PERSON-ORGANIZATION FIT

Organizational characteristics are a crucial feature in determining how well a person is integrated into an organization (Schein 2010). PO fit is defined as “the compatibility between people and entire organizations” (Kristof-Brown et al. 2005). PO fit can explain why some employees stay and contribute to the organizations, while other employees do not adapt to the organizations and eventually quit. Alniaçik et al. (2013) identified relationships between organizational commitment, job satisfaction, and turnover intentions by regulating the PO fit. The study concluded that organizational

commitment and job satisfaction reduced turnover intention. Moreover, PO fit was discovered as a moderator of this relationships. Their findings supported O'Reilly et al. (1991), who proposed that an employee's turnover intention is decreased by high PO fit.

2.3 TURNOVER INTENTION

Lastly, the turnover intention is proved as the greatest predictor of actual turnover (Tett and Meyer 1993). Importantly, assessment of the degree of preparatory and active job search yields remarkable levels of predictive efficacy (Griffeth et al. 2000). Preparatory search represents the effort to gather job information, while active search refers to various means of soliciting jobs (Blau 1994).

When it comes to the construction industry, research on the relationship between employee turnover and industry characteristics are rare. Lingard (2002) addressed that burnout characterized by emotional exhaustion is the most common negative experience among construction engineers working in Australia and burnout has a significant relationship with turnover. In addition, Lingard and Francis (2004) discovered that site-based employees underwent higher rates of work to family conflict and emotional exhaustion than employees in the head office. In the same line, Chih et al. (2016) illustrated that psychological dissatisfaction is indirectly related to turnover. However, previous studies focused on unusual psychological status, which is called burnout, rather than general status. Counting that turnover is an end state of employee's behavior after rational consideration, turnover should be analyzed in the perspective of the typical condition.

2.4 DEPARTURE POINT

A few researchers investigated the construction industry characteristics but they did not link the characteristics to employee's turnover intention. Fong and Kwok (2009) defined that clan culture is the most popular in contracting firms located in Hong Kong through the application of an organizational culture assessment instrument (OCAI) devised by O'Neill and Quinn (1993). However, the results have little relationships with employees' turnover because it applied the general instrument without consideration of the attributes unique to construction. Riley and Clare-Brown (2001) showed that difference in culture between the construction and manufacturing industry. Still, these two industries were compared in the dimensions of organizational management such as finance, customers, suppliers, and competitors. These results were too broad to relate to the employee's turnover intention. To define the relationship between organizational characteristics and turnover, characteristics should be investigated with the thought of turnover.

Several studies have explored the relationship between various antecedents and turnover in the construction industry. However, the results of these studies were confined to stressors such as burnout, work-family conflict (Yip and Rowlinson 2009; Lingard et al. 2010). Hee and Ling (2011) used Hackman and Oldham's (1980) job characteristics model to investigate ways to reduce turnover of quantity surveyors. They solely depended on the model, they mistranslated part of the model at the same time (e.g., feedback from a job, work context). On the other hand, Ling and Loo (2015) explained job characteristics that affect job satisfaction of project managers. Considering that the position of project manager required a number of years of experience, the authors could not define job characteristics that affect younger engineers. The present study pursued research to fill this gap in industry understanding.

In addition, this study can contribute to the industry by the proposition of new scales. So far, there is no established scale to apply when construction human resource practitioner wants to redesign the job to reduce employee's turnover. The practitioner can examine the current rates of the characteristics, which affect employee's turnover intention, with the scales used in this study. Understanding the current rates of the characteristics may improve communication and reduce conflict in the workplace, consequently, increase the employee's retention. Since job characteristics in the questionnaire are specialized in the construction industry, employers can redesign the job to reduce turnover intention and increase PO fit with a model suggested by the results of the questionnaire. Additionally, the scales and the model will be useful to develop a longitudinal research study. Because the need for context-specific investigations of turnover becomes significant, a questionnaire is one of the suitable tools to integrate context to research (Hom et al. 2017).

Chapter 3: Methodology

Top five construction companies in revenue located throughout South Korea are considered in this study. Human resource managers of each company were contacted and they received the hyperlink for the online questionnaire (see Appendix A) and cover letter (see Appendix B) that contained the purpose of the survey and guidelines on how to recruit participants. The hyperlink was distributed to participants by each company's human resource manager via email with cover letter (see Appendix C). Data were collected between October 18, 2018, and November 5, 2018. The respondents were asked to indicate their thoughts about their current job characteristics, PO fit, and turnover intention. These questions used a Likert scale and the statement for each option depended on questions.

The survey underwent Institutional Review Board (IRB) review (see Appendix D) and deployed using Google Forms provided by Google, LLC. Respondents were identified through random sampling by a human resource manager of each company. 70 valid responses were collected via Google Forms with anonymity and were used as the final sample. Prior to deployment, the survey was reviewed by three subject matter experts with backgrounds in research on human resource in the construction industry or Korean construction company.

The suggested model is supported by prior studies. Employee's turnover intention is reduced when he or she is a better fit for the organization (O'Reilly et al. 1991). Jung and Yoon (2013) confirmed that PO fit had a negative influence on turnover intention. Work satisfaction displayed the highest relationship to turnover (Griffeth et al. 2000). Burnout resulted from extremely stressful psychological statement has been associated with the defensive coping mechanism of escape (Lee and Ashforth, 1990), including a

stated desire to leave one's job (Weisberg, 1994). Particularly, emotional exhaustion were significant predictors of intention to turnover (Lingard 2003). As presented in Hackman and Oldham's (1980) job characteristics model and Karasek's (1979) job strain model, job characteristics (job demand and control) have strong relationships with work motivation, job satisfaction, and mental strain.

3.1 INSTRUMENT AND MEASUREMENTS

The questionnaire consisted of four sections: (1) construction industry characteristics scale part 1, (2) construction industry characteristics scale part 2, (3) PO fit scale and turnover intention scale, and (4) respondent demographics (see Appendix A for details). Questions in Section 1 asked to express the current organization's job characteristics as objectively as possible. The basic format of Hackman and Oldham's (1980) JDS was applied in Section 1. Section 2 consisted of different statements including reverse statements of the same job characteristics. They were used to verify the consistency of respondents. Section 3 assessed the participants' perceptions of PO fit and turnover intention. PO fit was assessed with six items based on the work of Edward (1991), Cable and Judge (1996) and Piasentin and Chapman (2006). The turnover intention was assessed with Roodt's (2004) turnover intention scale (TIS-6). Section 4 included demographic questions about the employees' gender, age, education level, and various state of employment. PO fit scale was free to use and permission for use of TIS-6 was obtained (see Appendix E).

A subject matter expert of Construction Industry Institute and a retired executive of a general contractor reviewed the representativeness of the selected job characteristics. Based on their feedback, several vague phrases were corrected and a question regarding the employee's job preference when the employment began was added in Section 3.

Though the question asks demographic characteristic, it is posed in Section 3 to specify the answer with five-point opposite response scales. This would distinguish between those who intended to leave the job from the start versus those who became dissatisfied after they were in the current job. The other subject matter expert of UT Austin who is a native speaker of Korean checked the validity of the translation of the questionnaire and cover letter for recruitment.

3.2 CONSTRUCTION INDUSTRY CHARACTERISTICS SCALE

The objective of the original instrument is the diagnosis of jobs prior to their redesign. Each characteristic is evaluated in the two different sections of the Construction Industry Characteristics Scale (CICS) and by items written in two different statements, thus it could diminish the degree to which major content and measurement technique are confused within the instrument (Hackman and Oldham 1975). Five-point opposite response scales are adopted (1 = low, 5 = high). The CICS provides measures of the seven core characteristics shown in Table 2, which are defined as follows:

- *Skill variety.* The degree to which a job requires a variety of different activities in carrying out the work, which involves the use of a number of different skills and talents of the employee.
- *Task identity.* The degree to which the job accompanies conflict along its process—that is, doing a job from beginning to end without conflicting demands.
- *Task significance.* The degree to which the job has a substantial impact on the lives or work of other people—whether in the immediate organization or in the external environment.

- *Autonomy.* The degree to which the job provides substantial freedom, independence, and discretion to the employee in scheduling the work and in determining the procedures to be used in carrying it out.
- *Appropriate workload.* The degree to which the job brings workload compared with employee's salary and normal working hours.
- *Justified work location.* The degree to which the job forces employee to relocate to an unwanted location and justification of assignment.
- *Job security.* The degree to which the job presents sufficient security to work constantly without concern about sudden layoff or suspension.

Hackman and Oldham (1975) calculated the internal consistency reliabilities by acquiring the median inter-item correlation for all items which are scored on each scale and then adjusting the median by Spearman-Brown procedures to acquire an estimate of the reliability of the summary scale score. Internal consistency reliabilities were: .71 (skill variety); .59 (task identity); .66 (task significance); .66 (autonomy).

3.3 PERSON-ORGANIZATION FIT SCALE AND TURNOVER INTENTION SCALE

Methods to measure person-organization fit can be classified by subjective, objective, and indirect methods (Piasentin and Chapman 2006). Investigators have pointed out that subjective methods are better to predict work outcomes compared to indirect or objective methods (Cable and Judge 1996; Kristof 1996). Therefore, this study selected subjective measures of PO fit.

PO fit was assessed with six items based on the work of Edward (1991), Cable and Judge (1996) and Piasentin and Chapman (2006). The PO fit scale subjectively assessed respondents' perceived match with their company. Five-point opposite response

scales are adopted (1 = low, 5 = high). Jung and Yoon (2013) showed a Cronbach's alpha coefficient of 0.93 for the PO fit scale.

The turnover intention scale (TIS-6) is a six-item scale developed by Roodt (2004) from his 15-item turnover intention scale. The scale consists of six subjective statements to ask respondent's intention regarding voluntary quit. Two reverse statements are adopted to reduce the acquiescence bias. Considering the time to complete the survey, reverse statements will reduce response speed and promote cognitive reasoning in the subjects (Podsakoff et al., 2003). Five-point opposite response scales are adopted (1 = low, 5 = high). Bothma and Roodt (2013) verified the reliability of TIS-6 by a Cronbach's alpha coefficient of 0.80.

3.4 DEMOGRAPHICS

The demographic section of the questionnaire collected specified objective conditions that might affect PO fit or turnover intention. There were many research studies that contended that demographics have a relationship with turnover intention. (Lingard 2004; Lingard and Francis 2004; Bowen et al. 2014; Ling and Loo 2015) Information collected consisted of eleven items: gender, age, education level, employment status, tenure at the current company, tenure at the industry, project site location, accommodation type, project size in terms of the number of colleagues, prime working location, and job preference at the beginning.

The degree of development of the infrastructure around the project site can affect the job satisfaction because the opportunity to relieve the work stress would be reduced if the degree of development is low. Also, the condition of accommodation can have influence in terms of privacy after work and the balance between family and work. The size of the project and the prime location of work (i.e., indoor or outdoor) are also

considered as factors. Lastly, the preference for the company at the beginning of employment can be a demographic factor. If an employee who had the first preference for the current company has the intention to quit, it is more likely that the job characteristics affected the intention. To specify the answer, this question was measured by five-point opposite response scales so included in Section 3.

3.5 DATA ANALYSIS

Raw results from the questionnaire were first gathered as a Microsoft Excel spreadsheet. The file was statistically analyzed by the Statistical Program for Social science (SPSS). Cronbach's alpha was used to evaluate the internal consistency reliability of each scale. Data were analyzed using descriptive statistics, independent samples t-test, Analysis of Variance (ANOVA), and regression analysis. Independent samples t-test and one-way ANOVA were employed to determine differences in PO fit and turnover intention due to each demographic characteristic. Brown-Forsythe F-test was substituted for t-test when the variances between groups were not equal. To verify that the assumption for the regression analysis was met, normality and scedasticity of residuals were evaluated by visual inspections. Linearity between independent variables was assessed by the Variance Inflation Factor (VIF).

Chapter 4: Results

4.1 DESCRIPTIVE STATISTICS OF SAMPLE

Each human resource manager of five construction companies randomly asked the appropriate personnel; 70 were returned. They asked via a social media application and respondents answered with anonymity. The majority of respondents were male (94.3%). 61.4% of respondents fell into the group of the ages of 31-35 and 34.3% fell into the group of the ages of 26-30. The highest level of education was: college degree (80%), and graduate degree (18.6%). Most respondents (97.1%) worked full-time (without the limitation on the period of the employment). The demographics of respondents is shown in Table 3.

Table 3. Demographics of Participants ($N = 70$)

Demographics	n	%	Demographics	n	%
Gender			Project location		
Male	66	94.3	Urban	27	38.6
Female	4	5.7	Suburban	33	47.1
Age			Undeveloped area	10	14.3
26-30	24	34.3	Accommodation type		
31-35	43	61.4	Home (with family)	23	32.9
36-40	3	4.3	Rental (provided by company)	30	42.9
Education			Camp (temporary building)	16	22.9
High school	1	1.4	Rental (by oneself)	1	1.4
College	56	80.0	Project size (No. of colleagues)		
Graduate	13	18.6	Less than 10	2	2.9
Employment status			10-30	39	55.7
Full-time	68	97.1	30-100	14	20.0
Periodic (Limitation on period)	2	2.9	More than 100	15	21.4
Tenure at the current company			Prime working location		
6-12 months	5	7.1	Indoor (office)	43	61.4
1-2 years	5	7.1	Outdoor (field)	27	38.6
3-4 years	60	85.7			

Table 3, cont.

Demographics	n	%	Demographics	n	%
Industry experience			Job preference at the beginning		
6-12 months	4	5.7	Not at all	10	14.3
1-5 years	35	50.0	Little	8	11.4
6-10 years	31	44.3	Moderately	10	14.3
			Much	19	27.1
			Completely	23	32.9

Hackman and Oldham (1980) stated that the internal consistency of each factor of JDS were: .71 (skill variety); .59 (task identity); .66 (task significance); .66 (autonomy). In the present study, Cronbach's alpha values for each characteristic were: .65 (skill variety); .47 (task identity); .81 (task significance); .69 (autonomy); .68 (appropriate workload); .65 (justified work location); .52 (job security). Nunnally and Bernstein (1994) recommended that the internal consistency could be acceptable when a Cronbach's alpha value greater than .70. However, considering the measurement situation such as the first study to apply the CICS, the five-point opposite scales, and 3 questions for each characteristic, .60 of Cronbach's alpha value could be established for cutoff (Peterson 1994; Loewenthal 2001; Lance et al. 2006). As mentioned by Loewenthal (2001) and Salazar (2015), the internal consistency of the characteristic of job security could be improved to remove the reverse item in the scale from .52 to .76. The characteristic of task identity was eliminated from the regression analysis due to the low reliability.

Table 4 provides mean ratings of 21 construction industry characteristic statements on a five-point opposite scales (1 = low, 5 = high). The statement, "*The job does not give any opportunity to work after the current project*" had the highest mean rating of 4.76 (reverse), indicating a response between moderately inaccurate and very inaccurate. The lowest mean rating was for the statement, "*The job does not require any*

unnecessary rework because it has a specific goal” as 1.97, indicating a response between moderately inaccurate and very inaccurate. Each characteristic of these two statements, job security, and task identity, had the lowest value of Cronbach’s alpha. From the perspective of descriptive statistics, respondents seem to feel that their job has slightly lower task identity ($M = 2.47$), slightly many things to do ($M = 2.47$), slightly unfairness in terms of assignment of project location ($M = 2.51$). Meanwhile, their job requires fair skill variety ($M = 3.06$) and autonomy ($M = 3.01$). Lastly, respondents think that their job is moderately significant ($M = 3.65$) and secured ($M = 3.71$).

Table 4. Mean Ratings of Construction Industry Characteristics Statements ($N = 70$)

Construction industry characteristic statements	<i>M</i>	<i>SD</i>
<i>Skill variety</i>	3.06	1.06
How much variety is there in your role on the project? That is, to what extent does the role require you to do many different tasks on the project, using a variety of your skills and talents?	2.83	1.04
The role requires me to use a diversity of skills and knowledge.	3.09	0.86
The role is quite simple and repetitive.	3.26*	1.21
<i>Task identity</i>	2.47	1.08
To what extent does your role involve an obvious goal? That is, does the job have a clear goal to be achieved without conflict among stakeholders such as clients, project managers, consultants, subcontractors, suppliers, government and public?	2.39	1.00
The job does not require any unnecessary rework because it has a specific goal.	1.97	0.90
The role has lots of conflicts in its objective due to the different interests of many stakeholders.	3.06*	1.05
<i>Task significance</i>	3.65	0.92
In general, how significant or important is your role on the project? That is, are the results of your work likely to significantly affect the work of co-workers or the well-being of other people?	3.59	0.77
The role has a significant impact on the co-workers by how well it gets done.	3.64	0.92
The job itself is not very significant or important in the perspective of the whole project.	3.71*	1.05

Scale: 1 = very little, 2 = little, 3 = moderately, 4 = much, 5 = very much

* Reverse coding used to compute item mean scale

Table 4, cont.

Construction industry characteristic statements	<i>M</i>	<i>SD</i>
<i>Autonomy</i>	3.01	1.14
How much autonomy is there in your job? That is, to what extent does your job permit you to decide on your own how to go about doing the work?	2.81	1.09
The job gives me a considerable opportunity for independence and freedom in how I do the work.	2.64	1.12
The job does not allow me to use my personal initiative or judgment in carrying out the work.	3.57*	1.00
<i>Appropriate workload</i>	2.47	1.06
How satisfied are you with your workload based on your salary? That is, is the reward commensurate with the quantity and quality of the work?	2.77	0.80
My work can be finished in normal working hours and overtime work is not required.	2.21	1.20
The job does not promote work-life balance because the job consumes most of my time.	2.41*	1.08
<i>Justified work location</i>	2.51	1.05
To what extent does the job guarantee fairness in a choice of work location? That is, does the job offer rational process to assign employees to a project site or head/regional office?	2.51	0.99
The job offers the proper procedure to assign employees to a specific project, training, and promotion.	2.51	0.91
The job forces me to relocate to an unwanted location.	2.50*	1.25
<i>Job security</i>	3.71	1.22
To what extent does the job assure job security in the future? That is, how much can you expect safe employment with the current organization without worry of layoff or discharge?	3.29	0.90
The job in this organization provides employment until retirement with the agreeable position.	3.09	1.24
The job does not give any opportunity to work after the current project.	4.76*	0.71

Scale: 1 = very little, 2 = little, 3 = moderately, 4 = much, 5 = very much

* Reverse coding used to compute item mean scale

The PO fit scale based on the work of Edward (1991), Cable and Judge (1996) and Piasentin and Chapman (2006) reported reliable internal consistency ($\alpha = .89$) in this study. Table 5 represents the mean ratings of responses to PO fit statements. Except for the statement, “*I genuinely care for this job*” ($M = 4.17$), mean ratings for the other five

statements were between 2.71 and 3.11, indicating a response between little and moderately. Thus, even though respondents care for the job quite much, they merely feel moderate conformity with their job.

Table 5. Mean Ratings of Person-Organization Fit Statements ($N = 70$)

Person-organization fit statement	<i>M</i>	<i>SD</i>
I really fit into this job.	2.97	0.96
My values match those of current employees in the company.	3.11	0.96
My job meets my major needs well.	2.97	0.95
I feel that my personal values are a good fit with this company.	2.71	1.05
This company has the same values as I do with regard to concern for others.	2.77	1.00
I genuinely care for this job.	4.17	0.99
Overall	3.12	1.09

Scale: 1 = not at all to 5 = completely

Reliable internal consistency ($\alpha = 0.80$) of Roodt's (2004) turnover intention scale (TIS-6) was identified in this survey. Table 6 shows the mean ratings of response to turnover intention statements. Respondents answered that they would likely accept another job seemed to be more satisfying ($M = 3.66$) and highly unlikely to look forward to another day at work ($M = 4.10$). For the rest of the statement, the mean ratings were between 2.50 and 2.89, indicating that respondents had a fair extent of the intention to turnover. This response can be explained by Hughes (2001) argument that intention to quit can be constrained by the availability of acceptable alternatives. Data were collected from within high-paying companies so it was hard to find another acceptable engineering career in South Korea. Since involuntary remaining can cause a potential decline in effort and performance, this should be treated with organized turnover prevention program.

Table 6. Mean Ratings of Turnover Intention Statements ($N = 70$)

Turnover intention statement	<i>M</i>	<i>SD</i>
How often are you frustrated when not given the opportunity at work to achieve your personal work-related goals?	2.63	0.98
How often do you actively seek another job (e.g., submit a resume, interview) that may better suit your personal needs?	2.50	1.11
How often have you considered leaving your job?	2.89	1.20
How likely are you to accept another job that appears to be more interesting and satisfying at the same compensation level should it be offered to you?	3.66	1.33
How often do you look forward to another day at work?	4.10*	1.04
To what extent is your current job satisfying your personal needs?	2.70*	0.79
Overall	3.08	1.23

Scale: 1 = never to 5 = always

* Reverse coding used to compute item mean scale

4.2 DIFFERENCES IN PO FIT AND TURNOVER INTENTION BETWEEN EACH DEMOGRAPHIC GROUP

To identify the difference in PO fit and turnover intentions due to the demographic characteristics, independent sample t-test and one-way analysis of variance (ANOVA) were conducted. The analysis tested the following null hypotheses:

- H₀₃₋₁: There is no significant difference in PO fit and turnover intention depending on gender.
- H₀₃₋₂: There is no significant difference in PO fit and turnover intention between four age groups.
- H₀₃₋₃: There is no significant difference in PO fit and turnover intention depending on the education level.
- H₀₃₋₄: There is no significant difference in PO fit and turnover intention depending on the employment status.
- H₀₃₋₅: There is no significant difference in PO fit and turnover intention depending on the tenure.

- H₀₃₋₆: There is no significant difference in PO fit and turnover intention depending on the industry experience.
- H₀₃₋₇: There is no significant difference in PO fit and turnover intention depending on the site location.
- H₀₃₋₈: There is no significant difference in PO fit and turnover intention depending on the accommodation.
- H₀₃₋₉: There is no significant difference in PO fit and turnover intention depending on the project size.
- H₀₃₋₁₀: There is no significant difference in PO fit and turnover intention depending on the prime working location (i.e., indoor or outdoor).
- H₀₃₋₁₁: There is no significant difference in PO fit and turnover intention depending on the preference when the employee accepted the job.

Independent sample t-test deployed to test the null hypotheses of 3-1, 3-4, 3-10. One-way ANOVA deployed to test the null hypotheses of 3-2, 3-3, 3-5, 3-6, 3-7, 3-8, 3-9, 3-11. Table 7 and Table 8 respectively provides the result of the test. For the test of difference in the PO fit due to the project size, the value of Levene's test for equality of variance was significant so Brown-Forsythe F-test was used [$F(3, 66) = 4.003, p = 0.011$]. The F-test results suggested no significant difference in the mean level of the PO fit between project size groups.

The null hypothesis, "There is no significant difference in the PO fit depending on the preference when the employee accepted the job" ($p = 0.000$), "There is no significant difference in turnover intention depending on the site location" ($p = 0.054$), "There is no significant difference in turnover intention depending on the prime working location" ($p = 0.027$), and "There is no significant difference in turnover intention depending on the preference when the employee accepted the job" ($p = 0.029$) was rejected. Thus, the

alternate hypothesis that there is a significant difference in turnover intention due to the site location, the working location, and the job preference was supported. The alternate hypothesis that there is a significant difference in the PO fit due to the job preference was also supported. These demographic characteristics, job preference, project site location, prime working location, were entered in the regression model.

Table 7. PO fit and Turnover Intention between Groups of Demographics – Results of Independent Samples t-test

Null hypothesis		Levene's test		t-test for equality of means		Mean Differ.	Accepted into regression
		F	Sig.	t	Sig. (2-tailed)		
PO fit	3-1 (Gender)	0.488	0.487	-0.994	0.324	-0.40	-
	3-4 (Employment status)	2.404	0.126	-1.306	0.196	-0.74	-
	3-10 (Working location)	1.430	0.236	1.106	0.273	0.21	-
Turnover intention	3-1 (Gender)	3.953	0.051	1.567	0.122	0.61	-
	3-4 (Employment status)	0.150	0.700	-0.473	0.638	-0.26	-
	3-10 (Working location)	0.262	0.610	-2.262	0.027	-0.41	Accepted

Table 8. PO fit and Turnover Intention between Groups of Demographics – Results of One-way ANOVA

Null hypothesis		Test of homogeneity (Based on mean)		ANOVA (Between groups)		Accepted into regression
		Levene	Sig.	F	Sig.	
PO fit	3-2 (Age)	0.370	0.692	0.167	0.846	-
	3-3 (Education)	0.719	0.399	0.639	0.531	-
	3-5 (Tenure)	0.551	0.579	2.024	0.140	-
	3-6 (Industry experience)	0.004	0.996	1.590	0.212	-
	3-7 (Project location)	0.615	0.544	1.663	0.197	-
	3-8 (Accommodation)	1.879	0.161	0.451	0.717	-
	3-9 (Project size)	4.003	0.011	0.583*	0.668*	-
	3-11 (Job preference)	1.534	0.203	5.998	0.000	Accepted

* Result of Brown-Forsythe F-test

Table 8, cont.

	Null hypothesis	Test of homogeneity (Based on mean)		ANOVA (Between groups)		Accepted into regression
		Levene	Sig.	F	Sig.	
Turnover intention	3-2 (Age)	0.739	0.481	0.843	0.435	-
	3-3 (Education)	0.347	0.558	0.361	0.698	-
	3-5 (Tenure)	0.012	0.988	1.619	0.206	-
	3-6 (Industry experience)	0.447	0.641	0.385	0.682	-
	3-7 (Project location)	1.448	0.242	3.049	0.054	Accepted
	3-8 (Accommodation)	2.134	0.126	0.335	0.800	-
	3-9 (Project size)	1.416	0.246	0.371	0.774	-
	3-11 (Job preference)	1.381	0.250	2.888	0.029	Accepted

4.3 MULTIPLE REGRESSION ANALYSIS

To explore the relationships between the factors (job characteristics, PO fit, turnover intention, selected demographic characteristics), multiple linear regression was applied. Since internal consistency of the scales of the characteristics (except task identity), PO fit, and turnover intention was verified ($\alpha > 0.6$), the mean ratings of each factor were reflected in the regression analysis.

The first analysis applied the six core job characteristics and the selected demographic characteristic by the ANOVA (job preference) as predictors of PO fit. Multicollinearity was assessed based on the variance inflation factor (VIF) which provides an index number that measures how much the variance of an estimated regression coefficient was increased because of collinearity (Peck and Devore, 2011). Visual inspections of the residuals were used to check the normality and heteroscedasticity of residuals. The normality assumption was met because the distribution of residuals seemed similar to the normal distribution curve. Disorder among the coordinates of the standardized predicted value and standardized residual verified that there was no heteroscedasticity.

To exclude the insignificant independent variables from the regression model, SPSS's the method of stepwise entry of predictor along the significance was applied. The probability of F was used as the criteria for the stepping method ($p \leq 0.05$ enter; $p \geq 0.10$ remove). For the final regression model, justified work location and skill variety of job characteristics, and job preference of demographic characteristics were entered as the predictors. The value of *adjusted R*² demonstrated that 48.4% of the variance in the level of PO fit could be explained by the three predictors. The null hypothesis of the regression model was rejected ($p = 0.000$). Table 9 provides the coefficients for each of the independent variables. The result of collinearity statistics of each of the independent variables proved no multicollinearity ($VIF < 10.0$). Table 10 presents the excluded variables which were not significant when the selected factors were entered in the regression model ($p > 0.05$).

The null hypothesis, "There is no relationship between the seven core job characteristics and PO fit" is rejected and the alternate hypothesis "There is a significant relationship between the seven core job characteristics (justified work location and skill variety are applicable) and PO fit" is supported. The multiple regression model to predict PO fit is as follows:

$$\text{PO fit} = 0.669 + 0.354 \times \text{justified work location} + 0.258 \times \text{skill variety} \\ + 0.219 \times \text{job preference}$$

Table 9. Predictors of PO Fit

Independent variables	Unstandardized coefficients		Std. coefficients	t
	B	Std. Error	Beta	
(Constant)	0.669	0.320		2.090
Work location	0.354	0.091	0.365	3.904
Job preference	0.219	0.049	0.395	4.468
Skill variety	0.258	0.091	0.262	2.822

Table 10. Removed Variables from the Regression Model to Predict PO Fit

Independent variables	Beta In	t	Sig.
Task significance	0.01	0.091	0.928
Autonomy	0.011	0.105	0.917
Workload	-0.114	-1.234	0.222
Job security	0.001	0.012	0.991

The second analysis applied PO fit and the selected demographic characteristics by the t-test and ANOVA (working location, project location, and job preference) as predictors of turnover intention. The normality and homoscedasticity of residuals were verified by visual inspections.

Likewise, SPSS's the method of stepwise entry of predictor along the significance was applied. The final regression model included PO fit and working location of demographic characteristics as the predictors. The value of *adjusted R²* claims that 65.9% of the variance in the level of turnover intention could be explained by the two predictors. Table 11 presents the coefficients for each of the accepted independent variables. Significance levels of the removed variables are shown in Table 12.

The null hypothesis, "There is no relationship between PO fit and the employee's turnover intention" is rejected and the alternate hypothesis "There is a significant relationship between PO fit and the employee's turnover intention" is supported. The multiple regression model to predict turnover intention is as follows:

$$\text{Turnover intention} = 5.102 - 0.761 \times \text{PO fit} + 0.252 \times \text{working location}$$

For the items of the question of working location, number one was used to mean that the respondent was mainly working indoors, number two was used to mean that the respondent was mainly working outdoors. This means an employee who is mainly working in the field might have a higher intention to leave than an employee who is mainly working at the office of the same project.

Table 11. Predictors of Turnover Intention

Independent variables	Unstandardized coefficients		Std. coefficients	t
	B	Std. Error	Beta	
(Constant)	5.102	0.286		17.835
PO fit	-0.761	0.069	-0.781	-11.014
Working location	0.252	0.111	0.161	2.267

Table 12. Removed Variables from the Regression Model to Predict Turnover Intention

Independent variables	Beta In	t	Sig.
Project location	0.001	0.012	0.990
Job preference	0.080	0.953	0.344

Chapter 5: Discussion and Conclusions

5.1 DISCUSSION

The results of the study suggest that among Korean junior employees of the general contractors, reasonable assignment to a specific project location and skill variety required by the job can increase compatibility between people and organization when the employee's preference for the organization was high at the beginning of the employment. These variables measured in the study explained 48% of the variance in PO fit. On the other hand, it is possible to argue that sound fitness between employee and organization and indoor work environment can reduce an employee's intention to quit the organization. The result of the study confirmed that this combination explained 66% of the variance in turnover intention. This proposes that companies interesting in developing turnover prevention program should focus on job redesign, especially on fairness in the assignment of job location. In the industry, there is still a tendency that attributes preference for relocation to personality. However, as the previous study concluded (Lingard and Francis, 2004), an employee who works in site-based role feels higher emotional exhaustion than an employee who works in the regional or head office. Continuous assignment to the unwanted project sites and outdoor tasks frustrates the employees and make them have the intention to quit at the end of the day. Employee's relocation is imperative in the industry thus, equity in procedure should be perceived to reduce turnover intention (Guerts et al., 1998; Van Dierendonck et al.; 1998, Van Yperen, 1998). However, the respondents expressed that there is rarely a reasonable process for assignment. Interestingly, the workload and job security of job characteristics which respectively had the lowest and highest in mean ratings did not have a significant

relationship with PO fit. The reason is not clear but it can be translated that engineers accept a heavy workload and a secured job as a natural aspect of the industry.

Social exchange theory (Blau, 1964) may provide an explanation of the results. Employees believe that their organization and they will exchange goods and services by an agreement. Social exchange theory suggests that people expect to find fairness in the exchange relationship. If the breach of the contract is perceived, work satisfaction and work outcome would be decreased and it may elicit turnover intentions (McFarlin and Sweeney, 1992; Zhao et al. 2007). Equity theory addresses that the amount that people expect to take back should be reasonable comparing others in the same organization. Since unfairness in the organization is contagious, whole employees think that unfairness can happen to themselves when one member is unfairly treated (Lamertz, 2002). Site-based employees reported that they feel alienated and removed from the power or center of the company. Even worse, observing craft workers who paid by the exact working hour, site-based employees thought that their job demands were too much compared to compensation (Lingard and Francis, 2004).

The results of the study propose that there may be a need to consider the careful employee evaluation to assign to the specific location at least. Though controlling the environment of every single project site is hard to achieve, exchange of employees who have worked in site and head office will be readily implemented. With appropriate evaluation techniques and standards for the exchange, fairness may be established.

5.2 LIMITATIONS AND FUTURE RESEARCH

This study has three limitations. First, this is the first study to apply the newly designed scale, CICS. The value of Cronbach's alpha was comparatively low so one characteristic was excluded from the regression analysis. Improving internal consistency

by the change of phrases is required to be applied in further research. There was no significant relationship between PO fit and each statement of the excluded characteristic in this study. However, a different result might be produced if phrases in the statements are changed. Meanwhile, R^2 value of the regression model to predict PO fit and turnover intention was respectively 0.506 and 0.669. In this range of R^2 value is generally considered a moderate effect size rather than strong effect size (Moore et al. 2013). This rule of thumb can be different depends on the context of the survey, it still needs to be increased to say the survey has enough power of explanation.

Second, Data were collected from big companies which hire more than 5,000 employees each and demographics were not evenly represented in the dataset. The prime investigator had no control distribution of questionnaires because human resource managers of each company invited potential participants. A more equitable distribution and data from small companies may be helpful in generalizing the results.

Lastly, the survey was cross-sectional in nature. Cross-sectional studies are not available to verify the causal relationships between variables. If we become aware of the sequential order of turnover intention, prevention program would work more effectively. A longitudinal study is a solution to the limitation. The longitudinal study can also provide how well turnover prevention program work to reduce the intention.

5.3 CONCLUSIONS

This study conducted an online survey to investigate the relationships between the construction industry characteristics, PO fit, turnover intention, and respondent demographics. Justification of the project assignment process and the degree of different skills required to carry out the work are associated with PO fit when the employee had

first preference on the job at the beginning of the employment. PO fit is negatively associated with turnover intention when the employee mainly works at outdoor.

CICS is proved as a predictor PO fit. Human resource practitioners can use this scale to check the wellness of the organization and make improvement in the core characteristics. This will be the first step to develop a pertinent turnover prevention program. Organizations should focus on equity in the project assignment process and variety in the job when they design the program. It will increase employees' performance and effort, by extension, reduce employees' turnover.

Although the construction industry has a distinct culture (Borcherding, 1976), there are rare studies that have investigated the culture that affects employee's turnover. Several studies tried to examine the culture but they applied the scale for general industry and the result was too broad to make a specific insight to practitioners (Riley and Clare-Brown, 2001; Fong and Kwok, 2009; Hee and ling, 2011). This study may be one of a few attempts to empirically evaluate the relationship among construction industry characteristics, PO fit and employee's turnover intention. Though the survey was deployed in South Korea, the scales are originated from verified scales in the U.S. The scales can be also used in other countries and it is useful to compare the difference between countries.

Appendix A. Questionnaire

Section One

This part of the questionnaire asks you to describe your job, as objectively as you can.

Please do not use this part of the questionnaire to show how much you like or dislike your job. Questions about that will come later. Instead, try to make your descriptions as accurate and as objective as you possibly can.

1. How satisfied are you with your workload based on your salary? That is, is the reward commensurate with the quantity and quality of the work?

1-----	2-----	3-----	4-----	5-----
Very little; my workload is too heavy thus, I am not satisfied with my salary at all.	Moderately; there are many tasks to do in my job, however I've received an acceptable reward.		Very much; I receive a significant salary compared with my workload.	

2. How much autonomy is there in your job? That is, to what extent does your job permit you to decide on your own how to go about doing the work?

1-----	2-----	3-----	4-----	5-----
Very little; the job gives me almost no personal "say" about how and when the work is done.	Moderate autonomy; many tasks are standardized and not under my control, but I can make some decisions about the work.		Very much; the job gives me almost complete responsibility for deciding how and when the work is done.	

3. To what extent does your role involve an obvious goal? That is, does the job have a clear goal to be achieved without conflict among stakeholders such as clients, project managers, consultants, subcontractors, suppliers, government and public?

1-----	2-----	3-----	4-----	5-----
My job has a great deal of conflict caused by the different objectives of various stakeholders.	Though there sometimes exists conflicts in my job, I still manage to accomplish my goal.		My job has only one clear goal which can be completed without conflict.	

4. How much variety is there in your role on the project? That is, to what extent does the role require you to do many different tasks on the project, using a variety of your skills and talents?

1-----	2-----	3-----	4-----	5-----
Very little; the job requires me to repeat the routine tasks.	Moderate variety.		Very much; there are a variety of tasks utilizing my various skills and talents in my job	

5. In general, how significant or important is your role on the project? That is, are the results of your work likely to significantly affect the work of co-workers or the well-being of other people?

1-----	2-----	3-----	4-----	5-----
Insignificant; the outcomes of my work are not likely to impact other people.		Moderately significant.		Highly significant; the outcomes of my work can affect other people in various ways.

6. To what extent does the job guarantee fairness in a choice of work location? That is, does the job offer rational process to assign employees to a project site or head/regional office?

1-----	2-----	3-----	4-----	5-----
Very little; in my company, employees do not have the right to choose work location and there is no process for that.		Moderately; though an objective process for assigning work location is established, it does not work properly sometimes.		Very much; the process for selection is established well, and the results are always fair and delivered in an acceptable way.

7. To what extent does the job assure job security in the future? That is, how much can you expect secure employment with the current organization without worry of layoff or discharge?

1-----	2-----	3-----	4-----	5-----
Very little; employees should look for another employer after the completion of the current project.		Moderately; there is a possibility that an employer will reduce the size of the company, however the job usually promises three or four more projects.		Very much; every employee can expect full career path in the current organization until the retirement.

Section Two

Listed below are a number of statements which could be used to describe a job.

You are to indicate whether each statement is an accurate or inaccurate description of your job.

Once again, please try to be as objective as you can in deciding how accurately each statement describes your job, regardless of whether you like or dislike your job.

Write a number in the blank beside each statement, based on the following scale:

<i>How accurate is the statement in describing your job?</i>				
1	2	3	4	5
Very Inaccurate	Moderately Inaccurate	Uncertain	Moderately Accurate	Very Accurate

- _____ 1. My role requires me to use a diversity of skills and knowledge.
- _____ 2. My role has lots of conflicts in its objective due to the different interests of many stakeholders.
- _____ 3. My job does not give any opportunity to work after the current project.
- _____ 4. My job offers the proper procedure to assign employees to a specific project, training, and promotion.
- _____ 5. My role is quite simple and repetitive.
- _____ 6. My work can be finished in normal working hours and overtime work is not required.
- _____ 7. My role has a significant impact on co-workers by how well it gets done.
- _____ 8. My job does not allow me to use my personal initiative or judgment in carrying out the work.
- _____ 9. My job does not promote work-life balance because the job consumes most of my time.
- _____ 10. My job does not require any unnecessary rework because it has a specific goal.
- _____ 11. My job forces me to relocate to an unwanted location.
- _____ 12. My job gives me the considerable opportunity for independence and freedom in how I do the work.
- _____ 13. My job itself is not very significant or important in the perspective of the whole project.
- _____ 14. My job in this organization provides the potential for employment until retirement with an agreeable position.

Section Three

Now please indicate how you personally feel about your job.

Each of the statements below is something that a person might say about his or her job. You are to indicate your own personal feelings about your job by using the scale provided for each question.

1.	I really fit into this job.	Not at all	1	2	3	4	5	Completely
2.	My values match those of current employees in the company.	Not at all	1	2	3	4	5	Completely
3.	How often are you frustrated when not given the opportunity at work to achieve your personal work-related goals?	Never	1	2	3	4	5	Always
4.	My job meets my major needs well.	Not at all	1	2	3	4	5	Completely
5.	How often do you look forward to another day at work?	Never	1	2	3	4	5	Always
6.	I feel that my personal values are a good fit with this company.	Not at all	1	2	3	4	5	Completely
7.	My current job was one of my first preference when I accepted that.	Not at all	1	2	3	4	5	Completely
8.	This company has the same values as I do with regard to concern for others.	Not at all	1	2	3	4	5	Completely
9.	How often do you actively seek (e.g., submit a resume, interview) another job that may better suit your personal needs?	Never	1	2	3	4	5	Always
10.	How often have you considered leaving your job?	Never	1	2	3	4	5	Always
11.	I genuinely care for this job.	Not at all	1	2	3	4	5	Completely
12.	To what extent is your current job satisfying your personal needs?	To no extent	1	2	3	4	5	To a very large extent
13.	How likely are you to accept another job that appears to be more interesting and satisfying at the same compensation level should it be offered to you?	Highly unlikely	1	2	3	4	5	Highly likely

Section Four
Demographics

1. What is your gender?
 - ☐ Female
 - ☐ Male

2. What is your age?
 - ☐ 22 to 25 years
 - ☐ 26 to 30 years
 - ☐ 31 to 35 years
 - ☐ 36 to 40 years

3. What is the highest level of education you have completed?
 - ☐ High school
 - ☐ College
 - ☐ Graduate (Master, Ph.D., J.D., M.D.)
 - ☐ Others (Please specify) _____

4. What is your employment status?
 - ☐ Full-time employee
 - ☐ Periodic employee

5. How long have you worked at this company?
 - ☐ less than 6 months
 - ☐ 6-12 months
 - ☐ 1-2 years
 - ☐ 3-4 years

6. How long have you worked in the construction industry?
 - ☐ less than 6 months
 - ☐ 6-12 months
 - ☐ 1-5 years
 - ☐ 6-10 years

7. Where is your current project site located?
 - ☐ Urban
 - ☐ Suburban
 - ☐ Undeveloped area
 - ☐ Others (Please specify) _____

8. Where do you live after work?
 - ☐ Home (with your family)
 - ☐ Rental house (provided by the company for relocated employee without family)
 - ☐ Camp (for temporary purpose, i.e., container house)
 - ☐ Others (Please specify) _____

9. How many employees in the project site?

- ☐ less than 10
- ☐ 10-30
- ☐ 30-100
- ☐ more than 100

10. Where is your prime working location in the project site?

- ☐ Indoor (Office)
- ☐ Outdoor (Field)

Appendix B. Cover Letter for Questionnaire Distribution

Dear Human Resource Manager,

This document is prepared to provide you with guidelines on how to recruit employees as participants for this study. Furthermore, guidelines on distributing the questionnaire to employees are provided. This is to ensure that the employees selected represent the overall population of the company.

Employee Selection criteria

- (1) The employee must be over the age of 18 years old at the time the questionnaire is distributed.
- (2) The employee must have worked at the company for a minimum of 90-days and for a maximum of 4-years.
- (3) The employee must be assigned to a project site.

Questionnaire distribution guidelines

- (1) After you receive the questionnaire packet, your help is needed to distribute the packets to various position throughout a project site (e.g., architectural, project control, mechanical, electronic, safety, quality control).
- (2) All employees should receive only one email containing the questionnaire and cover letter.
- (3) Employees may complete the questionnaire at a time that is convenient for them. Please encourage employees to complete the questionnaire within 2 weeks from reception of the email.

If you have any questions, please contact us at the emails or phone numbers listed below. Thank you in advance for your support with this research.

Best regards,

Seogjae Choi
Graduate Student
The University of Texas at Austin
aa.choi@utexas.edu
512-945-7746

Kasey Faust
Assistant Professor
The University of Texas at Austin
faustk@utexas.edu
512-475-8059

Appendix C. Questionnaire Cover Letter

Identification of Investigator and Purpose of Study

You are invited to participate in a research study, entitled “Job Characteristics that Affect Person-Organization Fit and Turnover Intention among Junior Construction Professionals.” The study is being conducted by Dr. Faust and Choi, SeogJae in Department of Civil Engineering of The University of Texas at Austin, 301 E. Dean Keeton St., Stop C1700, Austin, TX 78712-1085, (512) 945-7746, aa.choi@utexas.edu.

The purpose of this research is to examine how job characteristics in construction company and fit between employee and company may explain the reason why employees leave their job. Your participation in the study will contribute to a better understanding of the reason why construction company employees may leave their jobs and develop strategies to help avoid employees from leaving. You are free to contact the investigator at the above address and phone number to discuss the study. You must be at least 18 years old to participate.

If you agree to participate:

- The survey will take approximately 20 minutes of your time.
- You will complete a questionnaire about your thoughts regarding your company’s characteristics and intention to seek other employment.
- You will not be compensated.

Risks/Benefits/Confidentiality of Data

There are no known risks. There will be no costs for participating, nor will you benefit from participating. Your name and email address will not be kept during the data collection. The data will be stored in an electronic database, secured with an encrypted password. A limited number of research team members will have access to the data during data collection. Your individual responses will not be shared with your manager and/or supervisor and are completely anonymous. Identifying information will be stripped from the final dataset.

Participation or Withdrawal

Your participation in this study is voluntary. You may decline to answer any question and you have the right to withdraw from participation at any time. Withdrawal will not affect your relationship with The University of Texas in anyway. If you do not want to participate either simply stop participating or close the browser window. You will not receive any more reminders from the research team.

Contacts

If you have any questions about the study, contact the researcher Choi, SeogJae at (512) 945-7746 or send an email to aa.choi@utexas.edu. This study has been reviewed by The

University of Texas at Austin Institutional Review Board and the study number is **2018-08-0104**.

Questions about your rights as a research participant.

If you have questions about your rights or are dissatisfied at any time with any part of this study, you can contact, anonymously if you wish, the Institutional Review Board by phone at (512) 471-8871 or email at orisc@uts.cc.utexas.edu.

If you agree to participate, click on the following link

<https://goo.gl/forms/wEr54POGpdwbs1bi1>

Thank you.

Please print a copy of this document for your records.

Appendix D. Human Subjects Approval



OFFICE OF RESEARCH SUPPORT & COMPLIANCE

THE UNIVERSITY OF TEXAS AT AUSTIN

*P.O. Box 7426, Austin, Texas 78713 - Mail Code A3200
(512) 471-8871 - FAX (512) 471-8873*

FWA # 00002030

Date: 10/11/2018
PI: Seogjae Choi
Dept: Engineering, Civil Architectural/Environment
Title: Job Characteristics that Affect Person-Organization Fit and Turnover Intention Among Junior Construction Professionals

Re: IRB Exempt Determination for Protocol Number 2018-08-0104

Dear Seogjae Choi,

Recognition of Exempt status based on 45 CFR 46.101(b)(2).

Qualifying Period: 10/10/2018 to 10/09/2021. Expires 12 a.m. [midnight] of this date. A continuing review report must be submitted in three years if the research is ongoing.

Responsibilities of the Principal Investigator:

Research that is determined to be Exempt from Institutional Review Board (IRB) review is not exempt from ensuring protection of human subjects. The Principal Investigator (PI) is responsible for the following throughout the conduct of the research study:

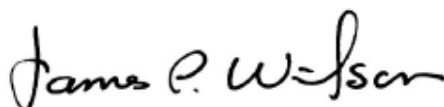
1. Assuring that all investigators and co-principal investigators are trained in the ethical principles, relevant federal regulations, and institutional policies governing human subject research.
2. Disclosing to the subjects that the activities involve research and that participation is voluntary during the informed consent process.
3. Providing subjects with pertinent information (e.g., risks and benefits, contact information for investigators and RSC) and ensuring that human subjects will voluntarily consent to participate in the research when appropriate (e.g., surveys, interviews).
4. Assuring the subjects will be selected equitably, so that the risks and benefits of the research are justly distributed.
5. Assuring that the IRB will be immediately informed of any information or unanticipated problems that may increase the risk to the subjects and cause the category of review to be reclassified to expedited or full board review.
6. Assuring that the IRB will be immediately informed of any complaints from subjects regarding their risks and benefits.
7. Assuring that the privacy of the subjects and the confidentiality of the research data will be maintained appropriately to ensure minimal risks to subjects.
8. Reporting, by submission of an amendment request, any changes in the research study that alter the level of risk to subjects.

These criteria are specified in the PI Assurance Statement that must be signed before determination of exempt status will be granted. The PI's signature acknowledges that they understand and accept these conditions. Refer to the Office of Research Support & Compliance (RSC) website www.utexas.edu/irb for specific information on training, voluntary informed consent, privacy, and how to notify the IRB of unanticipated problems.

1. Closure: Upon completion of the research study, a Closure Report must be submitted to the RSC.
2. Unanticipated Problems: Any unanticipated problems or complaints must be reported to the IRB/RSC immediately. Further information concerning unanticipated problems can be found in the IRB Policies and Procedure Manual.
3. Continuing Review: A Continuing Review Report must be submitted if the study will continue beyond the three year qualifying period.
4. Amendments: Modifications that affect the exempt category or the criteria for exempt determination must be submitted as an amendment. Investigators are strongly encouraged to contact the IRB Program Coordinator(s) to describe any changes prior to submitting an amendment. The IRB Program Coordinator(s) can help investigators determine if a formal amendment is necessary or if the modification does not require a formal amendment process.

If you have any questions contact the RSC by phone at (512) 471-8871 or via e-mail at orsc@uts.cc.utexas.edu.

Sincerely,



James Wilson, Ph.D.
Institutional Review Board Chair

Appendix E. Permission for Use and Reproduction of TIS-6

Asking for access and permission to the TIS-6

Roodt, Gerhard <groodt@uj.ac.za>
To: Seogjae Choi <aa.choi@utexas.edu>

Wed, Oct 17, 2018 at 10:54 AM

Dear Seogjae

You are welcome to use the TIS!

For this purpose please find attached the longer 15-item version of the scale. The six items used for the TIS-6 are high-lighted. You may use any one of these two versions. The longer scale will generate higher coefficient Alpha reliabilities.

You are welcome to translate the scale if the need arises. I would like to propose the translate – back-translate method by using two different translators. First you translate from English into home language and then back from home language to English to see if you get to the original English wording.

This is the fourth version of the scale and it is no longer required to reverse score any items (on TIS-6). The total score can be calculated by merely adding the individual item scores. I would strongly recommend that you also conduct a CFA on the item scores to determine if any item scores should be reflected.

The only conditions for using the TIS is that you acknowledge authorship (Roodt, 2004) by conventional academic referencing (see article by Bothma & Roodt, 2013 in the *SA Journal of Human Resource Management*). The TIS may not be used for commercial purposes.

I wish you the very best with your research project!

Best regards

Gert

Prof Gert Roodt

Dept Industrial Psychology & People Management

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